

Unstable surface correspondence as the source of local conspiracies

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In Agreement by Correspondence theory (ABC; Hansson 2001; Rose and Walker 2004; a.o.), phonological patterns such as harmony and dissimilation arise from the interaction of corresponding surface segments. Although ABC was originally devised for long distance harmony patterns, recent work has shown that ABC can insightfully handle local effects (Inkelas & Shih 2013; Shih 2013; Lionnet 2013; Sylak-Glassman 2013). In this paper, we argue that viewing local effects as consequences of segmental correspondence offers an improved perspective on classic nasal-consonant (NC) patterns that have previously been regulated in Optimality Theory by context-specific markedness constraints.

ABC attributes long-distance (dis)harmony patterns to surface CORR(espondence) relationships that are determined by phonological similarity (e.g., participating segments are obstruents, liquids, etc.). Correspondence relationships can also be scaled by degrees of proximity, from strict string-adjacency (CORR-X::X) to syllable adjacency (CORR-X:σ:X) to having no proximity restriction (Walker 2000; Hansson 2001; a.o.). In harmony, corresponding segments become more similar in order to satisfy featural IDENT(ity) within a correspondence set. In dissimilation, the cost of satisfying IDENT is too high; segments become less similar to escape the costly correspondence relationship (Bennett 2013). Harmony and disharmony are repairs for resolving the same conspiracy of what we term *unstable surface correspondence*, in which two structures are similar enough to interact but too uncomfortably similar to co-exist within a certain distance.

We show that the need to repair unstable correspondence underlies a much wider variety of phenomena than has been previously treated in ABC, focusing on two well-known conspiracies involving nasal-consonant sequences. Previous work has revealed a cross-linguistic dispreference for both nasal+fricative (NS) and nasal+voiceless consonant (NÇ) clusters (e.g., Padgett 1994; Pater 1999/2004; respectively; see also Hyman 2001). These clusters are prone to a number of phonological repairs: deletion, epenthesis, dissimilation, assimilation. Though typically analyzed in the literature as the consequence of contextual markedness constraints (e.g., NPA, *NÇ) that are arbitrarily specific to particular strings of segments, ABC instead traces the problem to unstable correspondence within the cluster. As shown in the Mandar example in (1) (Pater 1999/2004), adjacent [–continuant] consonants must correspond (CORR-X::X [–cont]) and must match in continuancy and voice (CC-IDENT [cont, voice]). The winning candidate, with assimilation of the nasal to the voiceless consonant, is one in which both correspondence and identity within a correspondence set are satisfied. A nasal + voiced consonant cluster, as in /maN-dundu/ → [mandundu], already satisfies CC-IDENT and does not need to undergo gemination.

(1)	/maN+tunu/	CC-IDENT [cont, voice]	CORR-X::X [–cont]	IDENT-IO [nas]
☞ a.	mat _x t _x unu			1
b.	mat _x t _y unu		W1	L
c.	man _x t _y unu		W1	L
d.	man _x t _x unu	W1		L

Dissimilation is the repair of choice for unstable NC correspondence in Polish (Padgett 1994). While Polish nasals assimilate in place to following stops (e.g., *pan bog* → [pambuk] ‘lord god’), they dissimilate to nasal glides before fricatives (e.g., *szansa* → [šaŋsa] ‘chance’). We model this effect in ABC as a correspondence requirement between [–approximant] consonants and a re-

quirement that corresponding consonants agree place and continuancy (2). Dissimilation provides an escape from correspondence when CC-IDENT cannot be satisfied:

(2)	/ šansa /	CC-IDENT [cont, place]	CORR-X::X [-approx]	IDENT-IO [cont]
a.	šan _x s _y a		W1	L
b.	šan _x s _x a	W1		L
☞ c.	šaŵ _x s _y a			1
d.	šaŵ _x s _x a	W1		1

Segment deletion—a logical endpoint of featural dissimilation—is another well-known repair of NS and NC clusters. The tableau in (3) illustrates deletion in NS clusters in Zoque (Padgett 1994), wherein swapping the input-output faithfulness constraints MAX and IDENT produces deletion as the repair that exempts the winning candidate from unstable correspondence.

(3)	/ N-faha /	CC-IDENT [cont, place]	CORR-X::X [+cons]	MAX
a.	n _x f _y aha		W1	L
b.	n _x f _x aha	W1		L
c.	m _x f _x aha	W1		L
☞ d.	faha			1

The ABC approach to local NC phenomena has two advantages. One is that it permits us to dispense with the context-specific *NC̥ constraint used by Pater to force the repair of NC̥ sequences, the NPA markedness constraint used by Padgett (1995: 150) to force place assimilation in NC clusters, and the representational, feature-geometric machinery that problematizes NS clusters on Padgett’s account (cf. Padgett 1994, 1995).

The second advantage of attributing alternation in NC clusters to unstable correspondence is the resulting parallelism of the formal analyses of local and long-distance interaction. For example, the Zoque deletion analysis in (3) is essentially parallel to the analysis in (4) of long-distance co-occurrence restrictions causing the deletion of coda [h] following a syllable with another aspirate in Huave (example modified from Kim 2008: 81). Following Bennett (2013), we model the proximity condition with CC-Edge(σ) [+spread glottis]:

(4)	/ t-a-h-pah /	CC-Edge(σ) [+s.g.]	CORR-XX [+s.g.]	MAX
a.	tah _x pah _y		W1	L
b.	tah _x pah _x	W1		L
c.	tahpa			1

Shifting the burden of grammatical analysis from (potentially arbitrary) contextual markedness to similarity-based surface correspondence illuminates the critical questions of which types of correspondences are the most unstable and which repairs are most likely to resolve them. This is an improvement over previous assumptions that local assimilation should be handled with one theory (autosegmental spreading), and long-distance interactions with another (ABC) (e.g., Rose and Walker 2004; Gallagher 2008; a.o.). The presupposition that local and long-distance effects are different obscures important parallels: recent work (Wayment 2009; Jurgec 2013) has shown that the similarity bias in segments participating in local assimilation resembles similarity thresholds for long-distance correspondences. Our proposal builds on these observations in showing that the underlying motive—unstable correspondence—drives the same repairs for both long-distance and local phonological patterns.